

IN THE SPECIFICATION

Please replace the paragraph at page 15, prenumbered line 15, to page 16, prenumbered line 6, with the following rewritten paragraph:

At the bottom portion 6 of the processing chamber 4, directly below the susceptor 26, a bottom opening portion 44 having a large diameter is provided. At the bottom opening portion 44, a transparent window 46 formed of a material through which heat rays can penetrate, e.g., quartz, is attached airtightly through a seal member 48, e.g., an O ring. Under the transparent window 46, a heating chamber 50 of a box shape is installed to surround the transparent window 46. In the heating chamber 50, e.g., a number of heating lamps 52 serving as a heating means are mounted on a rotatable table 54, which also functions as a reflector. The rotatable table 54 is rotated by a rotating motor 56, which is mounted at a bottom portion of the heating chamber 50, through a rotating axis. Heat rays radiated from the heating lamps 52 are illuminated on a lower surface of the thin susceptor 26 through the transparent window 46 to heat the susceptor 26, so that the wafer W on the susceptor 26 is heated indirectly. Herein, a resistance heating source may be employed in exchange for the heating lamps 52.

Please replace the paragraph at page 26, prenumbered lines 17-23, with the following amended paragraph:

As shown in Fig. 6, with respect to each of the process temperatures, the temperature difference at 0.3 torr was rather large, reaching about -1.0°C , but it was within an acceptable range. Also, when the process pressures ~~ranges~~ range from 1.0 torr to 5.0 torr in case of “after forming 2μ film”, it has been found that all the temperature differences are within $\pm 0.5^{\circ}\text{C}$, which shows an excellent measurement accuracy.

Please replace the paragraph at page 31, prenumbered line 15, to page 32, prenumbered line 4, with the following amended paragraph:

After a predetermined number of wafers are processed as described above, an operation for correcting temperature is executed. In this process, instead of a product wafer W, a dummy wafer, i.e., a substrate for correcting the temperature is carried into the processing chamber 4. The wafer is processed under a same condition of, e.g., process pressure, process temperature and processing gas used as in processing the product wafer. In this case, the processing gas for forming a film may not be provided thereto. When the dummy wafer for correcting the temperature is thermally processed, the temperature of the dummy wafer is detected and monitored by the radiation thermometer 66 installed at the shower head 12. The detected temperature is inputted to the temperature proofreading controller 84. At the same time, a value measured by the thermocouple 80 is also inputted to the temperature proofreading controller 84 controller 82.

Please replace the paragraph at page 52, prenumbered line 25, to page 53, prenumbered line 9, with the following amended paragraph:

Moreover, although a process of forming tantalum oxide film or the PZT film has been exemplified in the above embodiments, the present invention can be equally applied to a process of forming another type of film. For example, the invention can also be applied to processes of forming a tungsten film by thermal CVD by using WFe gas and H₂ gas, a TiN film by thermal CVD by using TiCl₄ gas and NH₃ gas, a Ti film by plasma CVD by using TiCl₄ gas and [[H₄]] H₂ gas and so on. In such cases, the light introducing rod of the radiation thermometer is installed in the gas injection hole of the assist gas, i.e., a reducing gas such as H₂ gas or NH₃ gas.